



CARBON PURIFICATION CHAMBERS

Canister style see parts list P-900
Bulk Carbon style see parts list P-5000
Refer to Bulletin R-102.

! SAFETY PRECAUTIONS

1. Read operating instructions and instructions supplied with chemicals to be used.
2. Refer to Chemical Resistance Data Chart for compatibility of materials with solution to be used.
3. Note temperature and pressure limitations.
4. Personnel should always wear suitable protective clothing: mask or goggles, apron and gloves.
5. All piping must be supported and aligned independently of the chamber.
6. Always close valves slowly to avoid hydraulic shock.
7. Ensure that all fittings and connections are properly tightened.

BEFORE CHANGING APPLICATION OR PERFORMING MAINTENANCE

1. Wear protective clothing as described in item 4 above.
2. Flush thoroughly with a neutralizing solution to prevent possible harm to personnel.
3. Verify compatibility of materials as stated in item 2 above.

DESCRIPTION

Activated carbon purification chambers are a simple, low cost and effective method of removing organic impurities from plating baths and other chemical solutions. To prolong the life of the carbon, a filter chamber should be used ahead of the carbon chamber to remove the bulk of the solid impurities before they reach the carbon.

The quality of solution purification using granular activated carbon is dependent upon several factors such as: Type of solution, temperature, degree of impurities in solution, type of carbon, depth of carbon bed and solution contact time (flow rate). Controllable factors are flow rate and type of carbon. A longer contact time between solution and carbon requires a lower flow rate. System performance should be established to determine optimum adsorbency versus flow rate relationship.

PRE-START-UP

Carbon chambers are shipped without carbon unless otherwise specified. Carbon should be in the canisters or shells

CARBON CANISTER

| MODEL | FLOW U.S. GPM | TRAP FILTER | CARBON CAPACITY | | PRICE CODE NOS. | |
|----------------------|------------------|---------------|-----------------|------|-----------------|--------|
| | | | NO. CANS. | LBS. | CPVC | PVC |
| CL1(528P)CCS 1-G3 | 1 - 5 | (1) SF 03U10U | 1 | 7½ | 0395A | 0395AA |
| CVL3(528P)CCS 1½-G3A | 3 - 15 | (3) SF-03U10U | 1 | 22½ | 0396 | 0396B |
| CVL3(548P)CCS 1½-G3A | 10 - 25 | (3) SF-03U20U | 3 | 45 | 0412A | 0412AC |

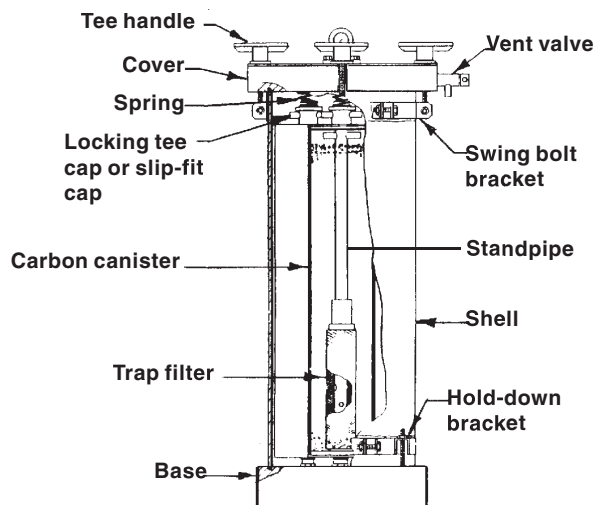
IMPORTANT

Maxi-Carb carbon cartridges SFC-528PE and SFC-548PE are interchangeable with 528C and 548C refillable carbon canisters respectively.

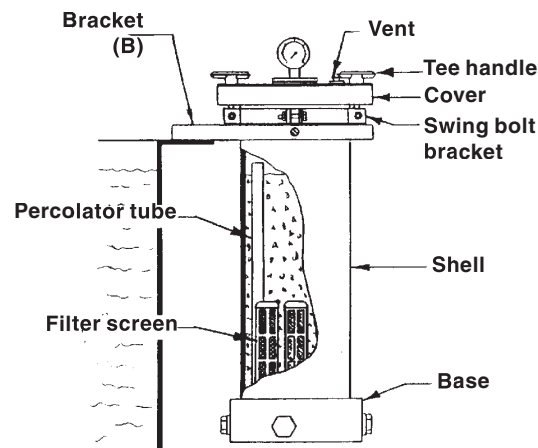
Refer to Product Bulletin M-305 or consult Application Engineering Department.

BULK CARBON

| | | | CUBIC FT. | LBS. | | |
|---------------------|--|-------------|-----------|------|-------|--------|
| CL630CS 1-G3 | 2 - 6 | (3) Screens | .42 | 13 | 0399A | 0399AA |
| CL630CS 1B-G3 | Same as above with bracket for mounting on tank. | | | | 0398A | 0398AA |
| CVL1230CS 1-1/2-G3A | 5 - 25 | (3) Screens | 1.6 | 50 | 0397A | 0397AB |



CARBON CANISTER



BULK CARBON

CARBON CANISTER

1. Remove chamber top cover by loosening the tee handles and lifting cover straight up. Remove the canisters from the chamber by grasping the locking tee cap and pulling straight up. Models available after October, 1985 have a slip-fit cap and cover which is removed with compression spring. Lift canister by grasping shell or lift by tee handle below canister cover.
2. Lift tee cap at top of canister and cover can be removed. Note trap filter. Fill each canister with approximately 7-1/2 pounds of activated granular carbon in Models (528C) or 15 pounds in Model (548C). Tap sides of shell gently so that carbon will settle. Replace canister cover.
3. Lower canister into shell and insert hole in center pipe over pipe adapter in base. There is an 'O'-ring seal that will prevent by-passing of solution. Replace canister cover and cap.
4. Replace spring on top of canister. Place cover on shell and tighten tee handles.

BULK CARBON

1. Remove chamber top cover by loosening the tee handles and lifting the cover straight up. Pour activated carbon into the shell, being careful not to pour carbon into the percolator tube. Gently tap sides of shell so that the carbon will settle. Carbon must be below the top of the percolator tube. Re-install tee handles and cover.

START-UP

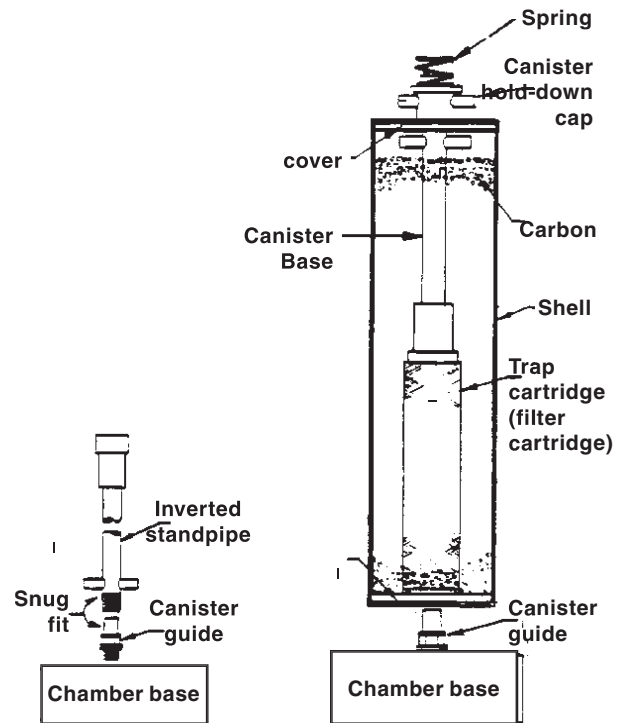
1. With water or process solution, flush carbon with volume of liquid until the discharge runs clear. Sample outlet to verify quality of discharge.
2. Open valve between carbon chamber and filtration system until the desired flow is obtained from the carbon chamber. Bleed air from the chamber by loosening vent screw or valve on the cover and closing when liquid reaches the vent.
3. The bulk carbon chamber has a filter screen to prevent migration of the carbon.
4. The carbon canisters have polypropylene filter cartridges to prevent migration of carbon.

SERVICE - CARBON CANISTERS-

To order carbon, see page 3.

1. Shut off inlet valve to carbon chamber. Remove plug at "drain", open vent and allow solution to drain from chamber.
2. Remove chamber cover. Remove spring and canister cover. Models available after October, 1985 will have a slip-fit cap which is removed with the compression spring.
3. Remove spring and canister tee cap. Lift cover off. Lift canister by shell or tee handle.
4. Place the canister on a table or suitable support where carbon can be conveniently dumped. Dump carbon into a container for disposal.
5. If filter cartridge has to be replaced, remove standpipe by turning tee handle. Reach into canister and remove filter cartridge. Insert new filter cartridge and screw on standpipe until filter cartridge is firmly held. Do not overtighten.
6. Fill canister with approximately 7-1/2 lbs. of activated granular carbon in Models (528C) or 15 lbs. in Model (548C). Tap shell gently to settle carbon.
7. Lower canister into chamber and center over canister guide. There is an 'O'-ring seal to prevent solution bypass.
8. Replace canister cover cap and spring. Replace chamber

Install all hoses (disconnected for shipping) and tighten hose clamps. Siphon breakers in the suction line to the pump and filter discharge to the tank should be installed as a further precautionary measure to limit and minimize the amount of liquid lost by back siphoning. An effective siphon breaker is a small hole drilled in the suction and discharge lines approximately 2" to 4" below the normal solution level.



- cover. Tighten tee handles. Close drain and vent.
9. If canister guide requires replacing, use standpipe assembly by sliding open end over adapter and turning.

TO CONVERT MALE THREADED CANISTER TO NEW "DROP-IN" STYLE - Refer to Operating Instructions O-235.

SERVICE - BULK CARBON

1. Shut off inlet valve to carbon chamber. Allow chamber to drain so that all the solution has been removed.
2. Remove carbon chamber from system. If inlet valve is true union type, remove one coupling. Remove the carbon chamber from the base and place on a table or similar support where carbon can be conveniently dumped.
3. Remove cover, thus exposing the carbon which can be removed by turning the chamber on its side and dumping the carbon into a container where it can be disposed of or washed for reuse. Clean chamber.
4. To replace filter screens, unscrew them from carbon base and install new filter screens.
5. Fill chamber with activated granular carbon to a level below the top of the percolator tube. Gently tap the sides of the chamber to settle the carbon.
6. Mount chamber on the base and install cover.

Read note on following page before cleaning chambers.

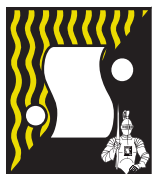
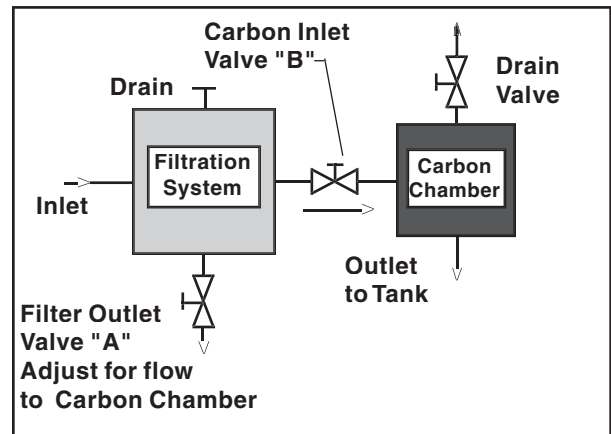
NOTE:

Be sure that all of the solution has been completely drained out of the chamber and canister before trying to remove the canisters. This can be accomplished by removing the drain plug in the base. This will only drain the canisters. A valve on the inlet side of the chamber must be opened to drain the chamber. If there is no drain valve provided, the hose connection must be disconnected in order to drain the chamber. Failure to drain both the canisters and chamber will result in loss of solution. Lift canister to rest on "guide" and solution will exit at drain port.

| GRANULAR, ACTIVATED CARBON | | |
|---|-------------|-----------------------|
| <i>10# bags or 50# drums only</i> | | |
| | LBS. | PRICE CODE NO. |
| 8 x 30 Mesh 99.5% sulfur-free (Standard) | 10 | 99-0992 |
| | 50 | 99-0995 |
| 12 x 30 Mesh Sulfur-free (Acid washed) | 10 | 99-0993 |
| | 50 | 99-0996 |

PURIFICATION TIPS:

1. **BYPASS PURIFICATION:** Valves **A** and **B** adjusted to provide flow from filter and from carbon chamber. Carbon chamber is installed on filter discharge with control valve on chamber inlet. Flow through carbon is adjusted to approximately 1- 5 U.S. GPM for each 7½ lb. canister. Continuous recirculation by this method should eliminate or significantly postpone batch treatment with powdered carbon.
2. **FULL FLOW PURIFICATION:** Valve **A** is closed, and valve **B** is fully open or throttled to provide suitable flow. A low flow rate will provide optimum adsorbency during transfer.
3. A regular analysis of carbon chamber discharge will establish ideal flow rate and disclose when carbon replacement is necessary.
4. A pressure gauge on carbon chamber inlet will permit valve adjustment for repeatedly obtaining identical flow rate.



SERFILCO, LTD.

2900 MacArthur Blvd. 847-509-2900
 Northbrook, IL 60062-2005 U.S.A. 800-323-5431
 e-mail: sales@serfilco.com FAX: 847-559-1995
 www.serfilco.com